

**Maritimes & Northeast Pipeline, LLC
Cumberland County
Westbrook, Maine
A-957-71-A-N**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Maritimes & Northeast Pipeline, LLC (M&N) located in Westbrook, Maine has applied for an Air Emission License permitting the operation of emission sources associated with their natural gas compressor station.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (scf/hr)</u>	<u>Fuel Type</u>	<u>Combustion or Post combustion Control Equipment</u>	<u>Stack #</u>
Turbine #1	139.0	136,231	Natural Gas	SoLoNOx II	1
Turbine #2	139.9	136,231	Natural Gas	SoLoNOx II	2
Generator #1	11.8	11,564	Natural Gas	none	3
Boiler #1	3.2	3,150	Natural Gas	none	4
Heater #1	2.7	2,625	Natural Gas	none	5

C. Application Classification

The new source is considered a major source based on whether or not expected emissions exceed the “Significant Emission Levels” as defined in the Department’s regulations. The emission for the new source are determined by the maximum future license allowed emissions, as follows:

<u>Pollutant</u>	<u>Max. Future License (TPY)</u>	<u>Sig. Level</u>
PM	7.9	100
PM ₁₀	7.9	100
SO ₂	3.8	100
NO _x	64.8	100
CO	74.1	100
VOC	23.7	50

This source is determined to be a minor new source and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Department’s regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Turbines #1 and #2

M&N proposes to install two Solar Mars Model 100-15002S3 (Mars 100) combustion turbines. Turbines #1 and #2 will provide power to recompress and move natural gas through the transmission pipeline. Turbines #1 and #2 each have an approximate heat input of 139.0 MMBtu/hr firing natural gas only.

Turbines #1 and #2 are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Gas

Turbines for which construction commenced after February 18, 2005. Turbines subject to Subpart KKKK are exempt from NSPS Subpart GG, Standards of Performance for Stationary Gas Turbines for which construction commenced after October 3, 1977.

M&N has proposed BACT for Turbines #1 and #2 to be the following:

NO _x	SoLoNO _x II Combustion Technology
CO	SoLoNO _x II Combustion Technology
VOC	SoLoNO _x II Combustion Technology
SO ₂	Firing of Pipeline Quality Natural Gas
PM/PM ₁₀	Good Combustion Practices
HAP	Good Combustion Practices

A summary of the BACT proposed for each pollutant is discussed below:

Nitrogen Oxides

Nitrogen Oxides (NO_x) emitted from the combustion turbine results from the oxidation of both fuel bound nitrogen and atmospheric nitrogen (thermal NO_x). Natural gas has very low fuel bound nitrogen. Therefore, reducing NO_x emissions must focus on reducing the thermal NO_x component. M&N proposes the use of SoLoNO_x Combustion Technology, which employs lean-premixed combustion techniques. The premixing of fuel and air upstream of the combustor primary zone helps to ensure that the flame operates at a fuel lean condition, thus lowering flame temperature and minimizing thermal NO_x formation.

The latest improvements to the SoLoNO_x Combustion Technology include the addition of augmented backside cooled (ABC) liners and an advanced thermal barrier coating (TBC). The ABC liners eliminate air injection into the combustor for wall cooling. The wall temperatures are controlled exclusively through convective cooling by high velocity air flow on the cold side of the liner. The TBC is a zirconia-based material that is plasma-sprayed onto the liner which reduces wall temperature. The ABC/TBC combination allows operation without air injection for cooling of the combustor liner, which eliminates quenching along the walls and thereby reduces CO emissions. The reduction of CO levels also allows the combustor to be operated at lower flame temperatures, which reduces NO_x formation. Combustors built with the additional ABC/TBC technology are marketed as SoLoNO_x II.

M&N evaluated several NO_x control strategies for their technical and economic feasibility including SoLoNO_x II, Selective Catalytic Reduction (SCR), SCONO_x, and Water and Steam Injection.

SCR is effective at reducing emissions of NO_x. However, an excess of ammonia is required to carry out the reduction of NO_x which results in ammonia slip. Additionally, pipeline flow through the compressor station is expected to vary daily and seasonally based on factors outside M&N's control. SCR control must be designed for peak turbine operating levels. Therefore, the effectiveness of SCR controls would be adversely affected during periods of low demand.

SCONOX is another add-on control technology based on the absorption of NO_x onto a solid bed of material. This technology is capable of very low emissions of NO_x with no ammonia slip. However, the operating temperature range is 300 to 700°F. The exhaust from Turbine #1 is expected to be in excess of 800°F. The temperature of the exhaust stream could be reduced either through heat exchangers or by injecting ambient dilution air into the exhaust stream.

Mechanically removing the heat from the system is not practical. If M&N were to cool the stream by adding dilution air, it would need to approximately double the size of the gas stream and therefore double the size of the SCONOX system. Due to the difficulties associated with cooling the gas stream, SCONOX was eliminated as a feasible control technology.

Dry technologies, such as SoLoNO_x, have replaced water or steam injection. They produce superior reductions in NO_x at lower costs.

Therefore, the Department has concluded BACT for NO_x emissions shall consist of operating the turbines with SoLoNO_x II Combustion Technology. NSPS, Subpart KKKK contains a NO_x emission limit of 25 ppmvd at 15% O₂ for temperatures greater than or equal to 0°F., and 150 ppmvd at 15% O₂ for temperatures less than 0°F and loads less than 75% of peak load. BACT for cold weather operations shall be the NSPS limit. BACT for ambient temperatures above 0°F shall be a NO_x emission limit of 15 ppmvd @ 15% O₂.

Carbon Monoxide

Carbon Monoxide (CO) results from the incomplete combustion of gas in the turbine. The proposed turbine is guaranteed to achieve 25 ppmvd @ 15% O₂ above 0°F. This represents a 50% reduction in CO emissions over the level determined to represent BACT for the existing compressor stations permitted in Richmond and Baileyville, Maine in 1998.

The proposed gas turbine uses a dry low NO_x combustor system, integrates sophisticated burner controls with staged premixed combustion zones, and fuel feed systems to achieve the required low NO_x emissions. Additional CO reductions are attributed to the ABC/TBC technology described above.

M&N is proposing SoLoNO_x II combustor technology and associated good combustion practices and instrumentation and controls as BACT for CO. The Department accepts this BACT proposal. The lb/hr emission limits listed in the Conditions of this license are calculated from the ppm values.

Volatile Organic Compounds

The majority of volatile organic compounds (VOCs) that are emitted from gas fired turbines come from unburned hydrocarbons. Control of VOCs is accomplished by providing adequate fuel residence time and high temperature in the combustion zone to ensure complete combustion. A review of the RACT/BACT/LAER Clearinghouse (RBLC) was performed to determine recent emission rates and control technologies that are considered BACT.

From the review of the RBLC, few comparable facilities reported any limit for VOCs. For each facility BACT was listed as combustion control.

Based on the information from the RBLC, M&N is proposing combustion control, via the SoLoNO_x II combustor, as BACT for VOCs. The Department accepts this BACT proposal.

Particulate Matter

Units firing fuels with low ash content and high combustion efficiency exhibit low particulate matter emissions. The most stringent particulate control method demonstrated for gas turbines is the use of low ash fuel such as natural gas. A review of the RBLC determined that BACT is combustion control.

M&N is proposing as BACT for PM/PM₁₀ the firing of only pipeline quality natural gas. The Department accepts this BACT proposal.

Sulfur Dioxide

Sulfur dioxide (SO₂) is formed from the oxidation of sulfur in fuel. The most stringent method of control for SO₂ that has been demonstrated for gas fired turbines is firing pipeline quality natural gas. The Department accepts this BACT proposal.

Air Toxics

Formaldehyde is the only organic compound which is also an air toxic that is emitted in more than a negligible amount. Total annual emissions are less than 2 ton/year, substantially below the 10 ton/year major source threshold. Good

combustion practice, with a state of the art combustion system, insures complete combustion of organic constituents of the fuel stream. Therefore, good combustion practice represents BACT for the control of air toxics. The Department accepts this BACT proposal.

C. Fuel Monitoring

In accordance with 40 C.F.R. § 60.4365(a), M&N proposes to demonstrate compliance with the total sulfur content of the fuel requirements by maintaining a current tariff sheet for the fuel specifying that the maximum total sulfur content of the gas is 20 grains of sulfur or less per 100 standard cubic feet.

D. Low Compressor Speeds

Through discussions with the turbine manufacturer, Solar, M&N has learned that operation of SoLoNO_x II for these units is adversely affected at gas producer speeds below 92%. During normal operating conditions at or above this minimum gas producer speed, the majority of the fuel (90-100%) is lean-premixed fuel and the balance is pilot fuel. When the gas producer speed falls below 92%, the balance between premixed and pilot fuel changes with the percentage of pilot fuel increasing. This has the effect of increasing NO_x and CO concentrations.

To correct this problem, M&N has proposed requiring a programming interlock in its control software to ensure that after the units are brought on line they do not operate below a gas producer speed of 92% except as part of the start-up and shut-down process.

E. Operation at Low Temperatures

Under normal operating conditions the majority of the fuel is lean-premixed fuel and the balance is pilot fuel. However, M&N has learned from the manufacturer that the turbine control systems are programmed to increase pilot fuel when the ambient temperature drops below zero to maintain combustion stability. As a result, emissions increase at these temperatures. M&N has proposed including provisions in the license for increased emissions during periods when the ambient temperature falls below zero degrees Fahrenheit. These provisions are consistent with the NSPS Subpart KKKK limits for cold temperature operation.

F. Turbine Case Venting and Station Piping Venting

When a turbine sits idle for some time, it is decompressed and vented to atmosphere to prevent damage to equipment. The turbine is also decompressed

and vented when maintenance work is done on the turbine. M&N shall keep records as specified for the turbine venting.

M&N performs emergency shutdown (ESD) testing and routine maintenance of station piping which results in venting natural gas to the atmosphere and may also experience actual ESDs. These activities are necessary for safety reasons and no specific emission limit is imposed to restrict these activities. M&N shall notify the Department as specified of any release that results in more than 85,000 scf of natural gas.

It is estimated that the total annual VOC emissions from the station from venting activities is approximately 15.5 ton/year.

G. Boiler #1 and Heater #1

Boiler #1 has a maximum heat input of 3.2 MMBtu/hr. Heater #1 has a maximum heat input of 2.7 MMBtu/hr. This equipment is therefore not subject to the New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BACT analysis for Boiler #1 (3.2 MMBtu/hr) and Heater #1 (2.7 MMBtu/hr) is the following:

1. Boiler #1 and Heater #1 shall fire only natural gas.
2. NO_x and CO emission limits are based on vendor supplied data.
3. PM, PM₁₀, SO₂, VOC emission limits are based upon AP-42 data dated 7/98.
4. Visible emissions from Boiler #1 and Heater #1 shall not exceed 10% opacity on a 6 minute block average.

H. Generator #1

M&N proposes to install an 11.8 MMBtu/hr Emergency Generator.

A summary of the BACT analysis for Generator #1 is the following:

1. Generator #1 shall fire only natural gas.
2. Generator #1 shall be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. Chapter 103 regulates particulate matter emissions from combustion sources, however in this case a BACT analysis for PM determined a more stringent limit of 0.01 lb/MMBtu (based on AP-42 data dated 7/00) was appropriate and shall be used. The PM₁₀ limits are derived from the PM limits.
4. SO₂ emission limits are based on AP-42 data dated 7/00.

5. NO_x, CO, and VOC emission limits are based upon vendor supplied data.
6. Visible emissions from Generator #1 shall not exceed 10% opacity on a 6-minute block average.

I. Degreaser Unit

M&N proposes to install a Safety-Kleen degreaser and operate it in accordance with MEDEP Chapter 130.

J. Annual Emissions

The following annual emissions for the facility are used to calculate the annual license fee:

Total Licensed Annual Emission for the Facility
Tons/year
(used to calculate the annual license fee only)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Turbine#1	3.8	3.8	1.9	30.9	35.6	3.9
Turbine #2	3.8	3.8	1.9	30.9	35.6	3.9
Generator #1	0.1	0.1	--	1.1	1.4	0.2
Boiler #1	0.1	0.1	--	1.0	0.8	0.1
Heater #1	0.1	0.1	--	0.8	0.7	0.1
Gas Releases	--	--	--	--	--	15.5
Total TPY	7.9	7.9	3.8	64.7	74.1	23.7

III.AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis.

Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-957-71-A-N subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [MEDEP Chapter 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [MEDEP Chapter 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [MEDEP Chapter 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [MEDEP Chapter 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [MEDEP Chapter 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [MEDEP Chapter 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [MEDEP Chapter 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.[MEDEP Chapter 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [MEDEP Chapter 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

(16) Turbines #1 and #2

- A. Except during periods of start-up and shut-down, Turbines #1 and #2 shall each not exceed the following emissions at ambient temperatures greater than 0°F:

Pollutant	ppmvd @ 15% O ₂	lb/hr	lb/MMBtu	Citation
PM	--	0.92	0.01	Chapter 115, BACT
PM ₁₀	--	0.92	0.01	Chapter 115, BACT
SO ₂	--	0.47	--	Chapter 115, BACT
NO _x	15	7.51	--	Chapter 115, BACT
CO	--	7.62	--	Chapter 115, BACT
VOC	--	5.0	--	Chapter 115, BACT

- B. Except during periods of start-up and shut-down, Turbines #1 and #2 shall each not exceed the following emissions at ambient temperatures less than or equal to 0°F:

Pollutant	ppmvd @ 15% O ₂	lb/hr	lb/MMBtu	Citation
PM	--	0.95	0.01	Chapter 115, BACT
PM ₁₀	--	0.95	0.01	Chapter 115, BACT
SO ₂	--	0.49	--	Chapter 115, BACT
NO _x	150	62.01	--	40 CFR 60, Subpart KKKK and Chapter 115, BACT
CO	--	47.19	--	Chapter 115, BACT
VOC	--	15.5	--	Chapter 115, BACT

- C. M&N shall keep records of the number of days during the calendar year that the ambient temperature is below zero degrees Fahrenheit. For any gaps in M&N's temperature data, it may utilize meteorological data from an appropriate representative location. [MEDEP Chapter 115, BACT]
- D. Visible emissions from Turbines #1 and #2 shall each not exceed 10% opacity on a six (6) minute block average basis, except for one (1) six (6) minute average in a three (3) hour period. [MEDEP Chapter 115, BACT]
- E. Turbines #1 and #2 shall only fire pipeline quality natural gas. [MEDEP Chapter 115, BACT]

- F. Compliance with the PM and PM₁₀ lb/hr emission limits shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5 upon request by the Department. [MEDEP Chapter 115, BACT]
 - G. Compliance with the CO and NO_x licensed emission limits shall be determined through stack testing in accordance with 40 CFR Part 60 Appendix A, Methods 10 and 7E, respectively during the initial performance test and upon request by the Department.
[40 CFR 60 Part KKKK and MEDEP Chapter 115, BACT]
 - H. Compliance with the SO₂ lb/hr emission limit shall be demonstrated by the maximum natural gas firing rate into the turbine and the available sulfur content data that is maintained in accordance with NSPS Subpart KKKK and described in Condition (18) below. [40 CFR 60 Part KKKK and MEDEP Chapter 115, BACT]
 - I. M&N shall demonstrate compliance with the VOC lb/hr limit upon request by the Department by either running a Method 25A test for Total Organic Compounds (TOC) or by running a Method 25A test and Method 18 tests for methane and ethane and subtracting the Method 18 tests from the Method 25A test. [MEDEP Chapter 115, BACT]
 - J. M&N shall keep documentation of all maintenance and repairs to Turbines #1 and #2. The documentation shall include all planned shutdowns, maintenance procedures and major parts replacements. This shall be available to the Department upon request. [MEDEP Chapter 115, BACT]
 - K. Except during periods of start-up and shut-down, M&N shall not operate Turbines #1 or #2 at gas producer speeds less than 92%. Compliance shall be demonstrated by record keeping of gas producer speeds at all operating times. [MEDEP Chapter 115, BACT]
- (17) Turbines #1 and #2 are subject to and shall comply with the requirements of the Federal NSPS 40 CFR Part 60, Subpart A (General Provisions), and Subpart KKKK (Stationary Gas Turbines).
- (18) In accordance with NSPS Subpart KKKK, M&N shall maintain a current tariff sheet which demonstrates the total sulfur content is 20 grains or less of sulfur per 100 scf of gas or otherwise comply with the specified methods for demonstrating compliance with the fuel sulfur content requirements of 40 C.F.R. § 60.4365.

- (19) M&N shall monitor and record the following as specified, for the facility [MEDEP Chapter 115, BACT]:

Parameter	Monitor	Record Monitor Data	Compile Fuel Usage
Natural Gas Flow Rate (actual cubic feet input)	Continuously	Continuously	Monthly

- (20) If any parameter monitor is recording accurate and reliable data less than 98% of the source-operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the continuous emission monitoring system was not recording accurate and reliable data during that quarter unless the licensee can demonstrate to the satisfaction so the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions. [MEDEP Chapter 115]
- (21) M&N shall maintain a log of all turbine case venting and ESD events that includes the following information:
- A. date of the event
 - B. estimated or actual event start time
 - C. estimated or actual event duration
 - D. event source
 - E. event type (shutdown, maintenance, testing, or malfunction)
 - F. description of event
 - G. estimate of the amount of natural gas vented
 - H. estimate of the amount of VOC emitted
 - I. 12 month rolling total VOC emissions

[MEDEP Chapter 115, BACT]

- (22) M&N shall notify the Department in advance of any scheduled venting event that is expected to result in the release of more than 85,000 scf of natural gas. M&N shall notify the Department within two working days of any unscheduled venting event that results in the release of more than 85,000 scf of natural gas. [MEDEP Chapter 115, BACT]

(23) **Performance Tests**

- A. M&N shall conduct an initial performance tests within 60 days after achieving the maximum production rate at which the facility will be operated but not later than 180 days after the initial startup. All testing shall comply with all of

the requirements of the DEP Compliance Test Protocol and with 40 CFR Part 60, as appropriate, or other methods approved by the Bureau of Air Quality. A representative of the DEP or EPA shall be given the opportunity to observe the compliance testing.

[40 CFR 60 Subpart KKKK and MEDEP Chapter 115, BACT]

- B. M&N shall install test ports in stack #1 in accordance with the criteria of 40 CFR Part 60, Appendix A, Method 1, and test platforms, if necessary, to allow emission compliance testing for the gas turbine.

[40 CFR 60 Subpart KKKK and MEDEP Chapter 115, BACT]

- C. M&N shall conduct initial performance testing on each gas turbine for CO and VOCs and, upon request by the Department, total PM. Test results shall be reported in the applicable units of the standard.

[40 CFR 60 Subpart KKKK and MEDEP Chapter 115, BACT]

- D. M&N shall perform annual performance tests to demonstrate compliance with the NO_x emission limits. If the NO_x emission results meet the requirements of 40 C.F.R. § 60.4340, then the frequency of performance tests may be reduced to once every two years upon concurrence from the MEDEP.

[40 CFR 60 Subpart KKKK and MEDEP Chapter 115, BACT]

(24) Record Keeping Requirements

M&N shall maintain records of the most current six year period of all monitored fuel flow rates required as a condition of this license. These records shall consist of the following:

- A. documentation which shows fuel flow rates during all source operating time, including calibration and audits; and
B. a complete data set of all fuel flow rates, as specified in this license. All records shall be made available to the Department upon request.

[MEDEP Chapter 115, BACT]

- (25) M&N shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next working day, whichever is later, of such occasions and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]

(26) **Boiler #1 and Heater #1**

- A. Boiler #1 and Heater #1 shall each fire only natural gas.
[MEDEP Chapter 115, BACT]
- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.08	MEDEP Chapter 115, BACT

- C. Emissions shall not exceed the following [MEDEP Chapter 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.02	0.02	0.24	0.20	0.03
Heater #1	0.02	0.02	0.20	0.16	0.03

- D. Visible emissions from Boiler #1 and Heater #1 shall each not exceed 10% opacity on a six (6) minute block average basis except for one (1) six (6) minute average in a three (3) hour period. [MEDEP Chapter 101]

(27) **Generator #1**

- A. M&N shall limit Generator #1 to 500 hr/yr of operation (based on a 12 month rolling total). [MEDEP Chapter 115, BACT]
- B. Generator #1 shall be equipped with an elapsed time meter. The value from the meter will be entered into a spreadsheet on a monthly basis. The spreadsheet will track operating hours on a monthly and a 12 month rolling total basis. [MEDEP Chapter 115, BACT]
- C. Generator #1 shall fire only natural gas. [MEDEP Chapter 115, BACT]
- D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	MEDEP Chapter 103

E. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.12	0.12	4.65	5.86	12.0

F. Visible emissions from the Emergency Generator shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period. [MEDEP Chapter 115, BACT]

(28) **Parts Washer**

Parts washers at M&N are subject to MEDEP Chapter 130.

A. M&N shall keep records of the amount of solvent added to each parts washer. [MEDEP Chapter 115, BPT]

B. The following are exempt from the requirements of Chapter 130 [MEDEP Chapter 130]:

1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
2. Wipe cleaning; and,
3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

C. The following standards apply to remote reservoir cold cleaning machines that are applicable sources under Chapter 130.

1. M&N shall attach a permanent conspicuous label to each unit summarizing the following operational standards [MEDEP Chapter 130]:
 - (i) Waste solvent shall be collected and stored in closed containers.
 - (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - (vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against

the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

- (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.
 - (viii) Work area fans shall not blow across the opening of the degreaser unit.
 - (ix) The solvent level shall not exceed the fill line.
2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [MEDEP Chapter 130, BPT]

(29) Annual Emissions

- A. Total emissions from the licensed sources identified in Paragraph II.J above shall not exceed the following on a 12 month rolling total basis [MEDEP Chapter 115, BACT]:

	Ton/year
PM	7.9
PM ₁₀	7.9
SO ₂	3.8
NO _x	64.7
CO	74.1
VOC	23.7

- B. M&N shall keep monthly records sufficient to document the facilities emissions on a 12 month rolling total basis and shall make those records available to the Department upon request. [MEDEP Chapter 115, BACT]

(30) **Annual Emission Statement**

In accordance with MEDEP Chapter 137, the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

- 1) A computer program and accompanying instructions supplied by the Department;
- or
- 2) A written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

The emission statement must be submitted by July 1 or as otherwise specified in Chapter 137.

(31) Air Toxics Emission Statement

If M&N exceeds the thresholds for HAPs listed in Appendix A of MEDEP Chapter 137 in an inventory year, in accordance with MEDEP Chapter 137 the licensee shall report, no later than July 1 every three years (2005, 2008, 2011, etc.) or as otherwise stated in Chapter 137, the information necessary to accurately update the State's toxic air pollutants emission inventory by means of a written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions on the Air Toxics emissions inventory portion should be directed to:

Attn: Toxics Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

- (32)** M&N shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605).

Maritimes & Northeast Pipeline, LLC
Cumberland County
Westbrook, Maine
A-957-71-A-N

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**Departmental
Findings of Fact and Order
Air Emission License**

(33) Payment of Annual License Fee

M&N shall pay the annual air emission license fee within 30 days of February 28th of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/28/06

Date of application acceptance: 9/29/06

Date filed with the Board of Environmental Protection: _____

This Order prepared by Lynn Ross, Bureau of Air Quality.